Instant Wireless® Series

Wireless-G PCI Adapter

Use this Guide to install:

WMP54G

User Guide

LINKSYS®

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This Warranty is valid and may be processed only in the country of purchase.

If the product proves defective during this warranty period, go to the Linksys website at *www.linksys.com* for complete RMA (Return Merchandise Authorization) assistance. You can also call Linksys Technical Support in order to obtain a RMA Number. BE SURE TO HAVE YOUR PROOF OF PURCHASE AND A BARCODE FROM THE PRODUCT'S PACKAGING ON HAND WHEN CALLING. RETURN REQUESTS CANNOT BE PROCESSED WITHOUT PROOF OF PURCHASE. When returning a product, mark the RMA Number clearly on the outside of the package and include a copy of your original proof of purchase. All customers located outside of the United States of America and Canada shall be held responsible for shipping and handling charges.

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SAFETY AND REGULATORY NOTICES

FCC STATEMENT

The Instant Wireless® Wireless-G PCI Adapter has been tested and complies with the specifications for a Class B digital device, pursuant to Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used according to the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which is found by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment or devices
- Connect the equipment to an outlet other than the receiver's
- Consult a dealer or an experienced radio/TV technician for assistance

FCC Caution: Any change or modification to the product not expressly approved by Linksys could void the user's authority to operate the device.

FCC RF Radiation Exposure Statement

To comply with the FCC and ANSI C95.1 RF exposure limits, the antenna(s) for this device must comply with the following:

- Access points with 2.4 GHz or 5 GHz integrated antenna must operate with a separation distance of at least 20 cm from all persons using the cable provided and must not be co-located or operating in conjunction with any other antenna or transmitter.

End-users must be provided with specific operations for satisfying RF exposure compliance.

Note: Dual antennas used for diversity operation are not considered co-located.

Canadian Department of Communications Industry Canada (IC) Notice

This Class B digital apparatus complies with Canadian ICES-003 and RSS-210.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 et CNR-210 du Canada.

"To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing."

" Pour empêcher que cet appareil cause du brouillage au service faisant l'objet d'une licence, il doit être utilisé à l'intérieur et devrait être placé loin des fenêtres afin de fournir un écran de blindage maximal. Si le matériel (ou son antenne d'émission) est installé à l'extérieur, il doit faire l'objet d'une licence. "

EC DECLARATION OF CONFORMITY (EUROPE)

Linksys Group declares that the Instant Wireless® Series products included in the Instant Wireless® Series conform to the specifications listed below, following the provisions of the European R&TTE directive 1999/5/EC, EMC directive 89/336/EEC, and Low Voltage directive 73/23/EEC:

For 2.4 GHz devices with 100 mW radios, the following standards were applied:

- ETS 300-826, 301 489-1 General EMC requirements for Radio equipment.
- EN 609 50 Safety
- ETS 300-328-2 Technical requirements for Radio equipment.

Caution: This equipment is intended to be used in all EU and EFTA countries. Outdoor use may be restricted to certain frequencies and/or may require a license for operation. Contact local Authority for procedure to follow.

Note: Combinations of power levels and antennas resulting in a radiated power level of above 100 mW equivalent isotropic radiated power (EIRP) are considered as not compliant with the above mentioned directive and are not allowed for use within the European community and countries that have adopted the European R&TTE directive 1999/5/EC and/or the CEPT recommendation Rec 70.03.

For more details on legal combinations of power levels and antennas, contact Linksys Corporate Compliance.

- Linksys Group vakuuttaa täten että Instant Wireless® Wireless-G PCI Adapter tyyppinen laite on direktiivin 1999/5/EY, direktiivin 89/336/EEC ja direktiivin 73/23/EEC oleellisten vaatimusten ja sitä koskevien näiden direktiivien muiden ehtojen mukainen.

- Linksys Group déclare que la Instant Wireless® Wireless-G PCI Adapter est conforme aux conditions essentielles et aux dispositions relatives à la directive 1999/5/EC, la directive 89/336/EEC, et à la directive 73/23/EEC.
- Belgique B L'utilisation en extérieur est autorisé sur le canal 11 (2462 MHz), 12 (2467 MHz), et 13 (2472 MHz). Dans le cas d'une utilisation privée, à l'extérieur d'un bâtiment, au-dessus d'un espace public, aucun enregistrement n'est nécessaire pour une distance de moins de 300m. Pour une distance supérieure à 300m un enregistrement auprès de l'IBPT est requise. Pour une utilisation publique à l'extérieur de bâtiments, une licence de l'IBPT est requise. Pour les enregistrements et licences, veuillez contacter l'IBPT.
- France F:
  2.4 GHz Bande : les canaux 10, 11, 12, 13 (2457, 2462, 2467, et 2472 MHz respectivement) sont complétement libres d'utilisation en France (en utilisation intérieur). Pour ce qui est des autres canaux, ils peuvent être soumis à autorisation selon le department. L'utilisation en extérieur est soumis à autorisation préalable et très restreint.

  2.4 GHz Band: only channels 10, 11, 12, 13 (2457, 2462, 2467, and 2472 MHz respectively) may be used freely in France for indoor use. License required for outdoor installations.

- Deutschland D: Anmeldung im Outdoor-Bereich notwending, aber nicht genehmigungspflichtig. Bitte mit Händler die Vorgehensweise abstimmen.
- Germany D: License required for outdoor installations. Check with reseller for procedure to follow.
- Italia I: E' necessaria la concessione ministeriale anche per l'uso interno. Verificare con i rivenditori la procedura da seguire. L'uso per installazione in esterni non e' permessa.
- Italy I: License required for indoor use. Use with outdoor installations not allowed.
- The Netherlands NL License required for outdoor installations. Check with reseller for procedure to follow.
- Nederlands NL Licentie verplicht voor gebruik met buitenantennes. Neem contact op met verkoper voor juiste procedure.

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Chapter 1: Introduction

The Wireless-G PCI Adapter

The Linksys Wireless-G PCI Adapter installs in most desktops and lets you put your computer almost anywhere in the building, without the cost and hassle of running network cables. Now you don't have to drill holes in your walls and climb through the attic or cellar to get connected to the network. Once you're connected, you can keep in touch with your e-mail, access the Internet, use instant messaging to chat with friends, and share files and other resources such as printers and network storage with other computers on the network.

The Wireless-G PCI Adapter connects you with Wireless-G networks at an incredible 54Mbps! And for added versatility, it can also interoperate with all the 11Mbps Wireless-B (802.11b) products found in homes, businesses, and public wireless hotspots around the country. And in either mode, your wireless communications are protected by up to 128-bit encryption, so your data stays secure.

So don't hassle with running cables through your house - get your desktop connected the easy way with the Linksys Wireless-G PCI Adapter.

Features

- Operates in the 2.4Ghz frequency spectrum with throughput of up to 54 Mbps
- Complies with IEEE 802.11g draft standards, and backwards compatible with IEEE 802.11b products
- Up to 128-bit WEP encryption
- 32-bit PCI Interface
- Compatible with Windows 98SE, Millennium, 2000 and XP

Chapter 2: Planning Your Wireless Network

Network Topology

A wireless local area network (WLAN) is exactly like a regular local area network (LAN), except that each computer in the WLAN uses a wireless device to connect to the network. Computers in a WLAN share the same frequency channel and SSID, which is an identification name for wireless devices.

Ad-Hoc versus Infrastructure Mode

Unlike wired networks, wireless networks have two different modes in which they may be set up: **infrastructure** and **ad-hoc**. In an infrastructure configuration a WLAN and wired LAN communicate to each other through an access point. In ad-hoc configuration, wireless-equipped computers communicate directly with each other. Choosing between these two modes depends on whether or not the wireless network needs to share data or peripherals with a wired network or not.

If the computers on the wireless network need to be accessed by a wired network or need to share a peripheral, such as a printer, with the wired network computers, the wireless network should be set up in **infrastructure** mode. (See Figure 2-1.) The basis of infrastructure mode centers around an *access point*, which serves as the main point of communications between a wired and wireless network. Access points transmit data to PCs equipped with wireless network adapters, which can *roam* within a certain radial range of the access point. Multiple access points can be arranged to work in succession to extend the roaming range, and can be set up to communicate with your Ethernet (wired) hardware as well.

Figure 2-1

If the wireless network is relatively small and needs to share resources only with the other computers on the wireless network, then the **ad-hoc** mode can be used. (See Figure 2-2.) Ad-hoc mode allows computers equipped with wireless transmitters and receivers to communicate directly with each other, eliminating the need for an access point. The drawback of this mode is that, in Ad-Hoc mode, wireless-equipped computers are not able to communicate with computers on a wired network. And, of course, communication between the wireless-equipped computers is limited by the distance and interference directly between them.

Figure 2-2

Chapter 3: Getting to Know the Wireless-G PCI Adapter

The PCI Adapter will install into your PC like any PCI adapter and, on the mounting bracket, you will find two distinguishing items:

ACT LED *Green*. The ACT LED lights up when the Adapter is powered on.

Antenna Port Attach the PCI Adapter's antenna here and position it for maximum performance, which is usually perpendicular to the horizon.

Chapter 4: Hardware and Driver Installation and Configuration for Windows XP

Windows 98SE, Me, and 2000 users: Go to Chapter 5: Software Installation and Configuration for Windows 98SE, Me, and 2000.

Overview

After installing the Adapter into your PC, you will install the driver and configure the Adapter.

Hardware Installation for Windows XP

1. Turn off your desktop PC.

2. Open your PC case and locate an available PCI slot on the motherboard. Check with your computer manufacturer for instructions.

3. Slide the PCI Adapter into the PCI slot. Make sure that all of its pins are touching the slot's contacts. You may have to apply a bit of pressure to slide the adapter all the way in. After the adapter is firmly in place, secure its fastening tab to your PC's chassis with a mounting screw. Then, close your PC.

4. Attach the external antenna to the adapter's antenna port.

5. Power on your desktop PC.

You have now completed the hardware installation for the Adapter. To install the driver for the Adapter, proceed to the next section, "Driver Installation for Windows XP."

Driver Installation for Windows XP

1. Windows XP will automatically detect the Adapter. Insert the Setup CD-ROM into the CD-ROM drive and the screen in Figure 4-1 should appear. Click the radio button next to **Install the software automatically (Recommended)**. Then click the **Next** button.

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
This wizard helps you install software for:
Wireless-G PCI Adapter
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

Figure 4-1

2. When Windows has finished installing the driver, click the **Finish** button.

Figure 4-2

You have now completed the driver installation for the Adapter. To configure the Adapter, proceed to the next section, "Windows XP Wireless Zero Configuration."

Windows XP Wireless Zero Configuration

For Windows XP users: Windows XP has a built-in configuration tool. Use Windows XP Wireless Zero Configuration (in the system tray at the bottom of your screen) to configure the Adapter.

1. After installing the Adapter, the Windows XP Wireless Zero Configuration icon will appear in your computer's system tray (see Figure 4-3). Double-click the icon.

Wireless Network Connection 3
One or more wireless networks are available.
To see a list of available networks, click here.

Figure 4-3

2. The screen that appears will show any available wireless network. Select the network you want.

   If you have already enabled WEP encryption on your network, skip ahead to step 3.

   If you have NOT enabled WEP encryption on your network, the screen in Figure 4-4 will appear. Check the box next to *Allow me to connect to the selected wireless network, even though it is not secure*. Then click the **Connect** button and continue to step 4.

Wireless Network Connection 3
The following wireless network(s) are available. To access a wireless network, select it from the list, and then click Connect.
Available wireless networks:
linksys
This wireless network is not secure. Because a network key (WEP) is not used for authentication or for data encryption, data sent over this network might be subject to unauthorized access.
Allow me to connect to the selected wireless network, even though it is not secure
If you are having difficulty connecting to a network, click Advanced.
Advanced...
Connect
Cancel

Figure 4-4

Note: Steps 2 and 3 are the instructions and screenshots for Windows XP with Service Pack 1 installed. If you have not installed Service Pack 1, select the network you want, and click the **Connect** button. If the network has WEP encryption enabled, enter the WEP key in the *Network key* field, and then click the **Connect** button.

3. The screen in Figure 4-5 will appear. Enter the WEP key of your wireless network in the *Network key* field, and re-enter it in the *Confirm network key* field. Then, click the **Connect** button.

Note: Wireless Zero Configuration does not support the use of a passphrase. Enter the exact WEP key used by your access point.

Wireless Network Connection 3
The following wireless network(s) are available. To access a wireless network, select it from the list, and then click Connect.
Available wireless networks:
linksys
This wireless network requires the use of a network key (WEP). To access this network, type the key, then click Connect.
Network key:
Confirm network key:
Enable IEEE 802.1x authentication for this network
If you are having difficulty connecting to a network, click Advanced.
Advanced...
Connect
Cancel

Figure 4-5

4. The screen in Figure 4-6 will appear if your connection is active.

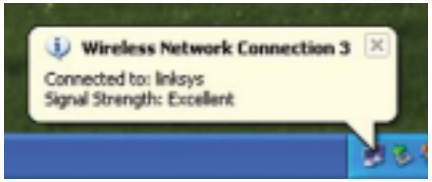

Figure 4-6

For more information about WEP, refer to your access point's documentation, or visit *www.linksys.com*.

For more information about wireless networking on a Windows XP computer, enter the keyword **wireless** in the Windows XP search engine.

Congratulations!
Your PC is now connected to your wireless network.

Chapter 5: Software Installation and Configuration for Windows 98SE, Me, and 2000

Overview

The Wireless-G PCI Adapter's Setup Wizard will guide you through the installation procedure for Windows 98SE, Me, and 2000. The Setup Wizard will install the WLAN Monitor and driver, as well as configure the Adapter.

Important for Windows 98SE, Me, and 2000 users: You must run the Setup Wizard to install the software before installing the hardware.

Insert the **Setup Wizard CD-ROM** into your CD-ROM drive. The Setup Wizard should run automatically, and Figure 5-1 should appear. If it does not, click the **Start** button and choose **Run**. In the field that appears, enter **D:\setup.exe** (if "D" is the letter of your CD-ROM drive).

Figure 5-1

Setup Wizard Instructions for Windows 98SE, Me, and 2000

1. To install the Adapter, click the **Install** button on the *Welcome* screen, Figure 5-1. Click **User Guide** to view the User Guide or click **Exit** to exit the Setup Wizard.

2. After reading the License Agreement, shown in Figure 5-2, click the **Next** button to continue the installation, or click the **Cancel** button to end the installation.

Figure 5-2

3. The Setup Wizard will display a screen similar to that shown in Figure 5-3, asking you to choose a wireless mode. Click the **Infrastructure Mode** radio button if you want your wireless computers to network with computers on your wired network using a wireless access point. Click the **Ad-Hoc Mode** radio button if you want multiple wireless computers to network directly with each other. Do not use Ad-Hoc mode if you want your wireless computers to communicate with computers on your wired network.

In the *SSID* field, enter the **SSID** of your wireless network. The SSID must be identical for all devices in the network. The default setting is **linksys** (all lowercase). Click the **Next** button, or click the **Back** button to return to the previous page.

Figure 5-3

4. If you chose Infrastructure Mode, go to ***Step 5*** now. If you chose Ad-Hoc Mode, you'll see a screen similar to that shown in Figure 5-4. Select the correct operating channel for your network from the *Channel* drop-down menu. Then, select the *Network Mode* from the drop-down menu. Click the **Next** button, and go to ***Step 5***. Click the **Back** button to change any settings.

Channel - The channel you choose should match the channel set on the other devices in your wireless network. If you are unsure about which channel to use, select the default channel (Channel 6).

Figure 5-4

Network Mode - Select **Mixed Mode**, and both Wireless-G and Wireless-B computers will be allowed on the network, but the speed will be reduced. Select **G-Only Mode** for maximum speed, but no Wireless-B users will be allowed on the network.

5. The Setup Wizard will ask you to review your settings (as in Figure 5-5) before it starts to copy files. Click the **Next** button to save these settings, or click the **Back** button to change any settings.

Figure 5-5

6. After the files have been successfully copied, the screen in Figure 5-6 will appear. Click the **Exit** button.

Figure 5-6

Proceed to "Chapter 6: Hardware Installation for Windows 98SE, Me, and 2000."

Chapter 6: Hardware Installation for Windows 98SE, Me, and 2000

Make sure that you do Chapter 5 and install the software with the Setup Wizard before you install the hardware.

1. Turn off your desktop PC.

2. Open your PC case and locate an available PCI slot on the motherboard. Check with your computer manufacturer for instructions.

3. Slide the PCI Adapter into the PCI slot. Make sure that all of its pins are touching the slot's contacts. You may have to apply a bit of pressure to slide the adapter all the way in. After the adapter is firmly in place, secure its fastening tab to your PC's chassis with a mounting screw. Then, close your PC.

4. Attach the external antenna to the adapter's antenna port.

5. Power on your desktop PC.

You have now completed the hardware installation for the Adapter.

If you want to check the link information, search for available wireless networks, or make additional configuration changes, proceed to "Chapter 7: Using the WLAN Monitor for Windows 98SE, Me, and 2000."

Chapter 7: Using the WLAN Monitor for Windows 98SE, Me, and 2000

Overview

Use the WLAN Monitor to check the link information, search for available wireless networks, or create profiles that hold different configuration settings.

Accessing the WLAN Monitor

After installing the Adapter, the WLAN Monitor icon will appear in your system tray. Double-click the icon (see Figure 7-1).

Figure 7-1

The *Link Information* screen (Figure 7-2) will appear. From this screen, you can find out how strong the current wireless signal is and how good the connection's quality is. You can also click the *More Information* button to view additional status information about the current wireless connection. To search for available wireless networks, click the **Site Survey** tab. To perform configuration changes, click the **Profiles** tab.

Figure 7-2

Link Information

The *Link Information* screen displays signal strength and link quality information about the current connection and provides a button to click for additional status information.

Ad-Hoc Mode or **Infrastructure Mode** - The screen indicates whether the Adapter is currently working in ad-hoc or infrastructure mode.

Signal Strength - The Signal Strength bar indicates signal strength.

Link Quality - The Link Quality bar indicates the quality of the wireless network connection.

Click the **X** (Close) button in the upper right corner to exit the WLAN Monitor.

Click the **More Information** button to view more information about the wireless network connection. A screen similar to that shown in Figure 7-3 will appear.

Figure 7-3

TCP/IP Setting
IP Address - The IP Address of the Adapter.
Subnet Mask - The Subnet Mask of the Adapter.
Default Gateway - The Default Gateway address of the Adapter.
DHCP - The status of the DHCP client.
DNS - The DNS address of the Adapter.

Wireless Network Status
State - The status of the wireless network connection.
SSID - The unique name of the wireless network.
Wireless Mode - The mode of the wireless network currently in use.
Transfer Rate - The data transfer rate of the current connection.
Channel - The channel to which the wireless network devices are set.
WEP - The status of the WEP encryption security feature.
MAC - The MAC address of the wireless network's access point.

Signal Strength - The Signal Strength bar indicates signal strength.

Link Quality - The Link Quality bar indicates the quality of the wireless network connection.

Click the **Back** button to return to the initial *Link Information* screen. Click the **X** (Close) button in the upper right corner to exit the WLAN Monitor.

Site Survey

The *Site Survey* screen, Figure 7-4, displays a list of infrastructure and ad-hoc networks available for connection.

Figure 7-4

SSID - The SSID or unique name of the wireless network.
Signal - The percentage of signal strength.

Site Information
Wireless Mode - The mode of the wireless network currently in use.
Channel - The channel to which the wireless network devices are set.
WEP - The status of the WEP encryption security feature.
MAC - The MAC address of the wireless network's access point.
Surveyed at - The time at which the wireless network was scanned.

Refresh - Click the **Refresh** button to perform a new search for wireless devices.

Connect - To connect to one of the networks on the list, select the wireless network**,** and click the **Connect** button. If the wireless network has WEP encryption enabled, you will see the screen shown in Figure 7-5.

Need Encryption Key for Connection
Wired Equivalent Privacy (WEP) is an encryption method used to secure your wireless network. A higher level of encryption is more secure. To use WEP, you must use the same WEP Key or Passphrase that your wireless network uses.
WEP
64 Bits
Passphrase
If your wireless network uses a passphrase, enter the same passphrase here. Note that the passphrase is case-sensitive and should not be longer than 16 alphanumeric characters.
Key 1
If your wireless network uses a WEP key, enter the same WEP key here.
OK
Cancel

Figure 7-5

In the *WEP* drop-down box, select the type of WEP encryption used by the wireless network: **64-bit**, or **128-bit** WEP.

If the wireless network uses a passphrase, enter the passphrase in the *Passphrase* field. If the wireless network uses a WEP key, enter the WEP key in the *Key 1* field.

Click the **OK** button to complete the network connection and return to the *Site Survey* screen, or click the **Cancel** button to cancel the network connection and return to the *Site Survey* screen.

On the *Site Survey* screen, click the **X** (Close) button in the upper right corner to exit the WLAN Monitor.

Profiles

The *Profiles* screen (Figure 7-6) lets you save different configuration profiles for different network setups. You can also import or export profiles. The default profile holds the initial configuration saved when you ran the Setup Wizard.

Figure 7-6

Profile - Name of the connection profile.
SSID - The wireless network's unique name, as set in the connection profile.

Profile Information
Network Type - The mode of the wireless network currently in use.
Transfer Rate - The data transfer rate of the current connection. (In *Auto* mode, the Adapter dynamically shifts to the fastest data transfer rate possible at any given time.)
Channel - The channel to which the wireless network devices are set.
WEP - The status of the WEP encryption security feature.

Connect - To connect to a wireless network using a specific profile, select the profile**,** and click the **Connect** button.

Edit - Select a profile, and click the **Edit** button to change an existing profile.

New - Click the **New** button to create a new profile. See the next section, "Creating a New Profile," for detailed instructions.

Import - Click the **Import** button to import a profile that has been saved in another location. From the screen that appears (shown in Figure 7-7), select the appropriate file, and click the **Open** button.

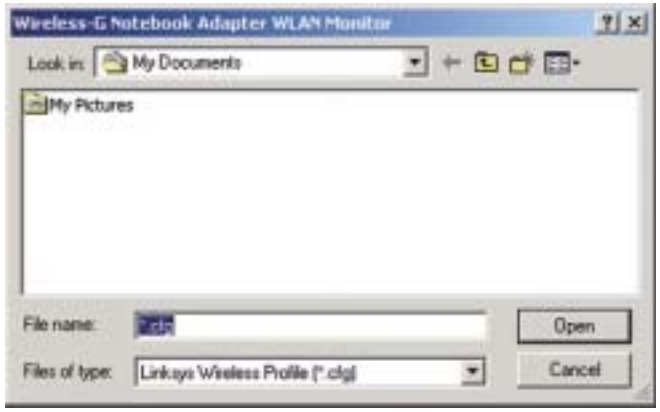

Figure 7-7

Export - To save the profile(s) in a different location, click the **Export** button. On the screen that appears (Figure 7-8), direct Windows to the appropriate folder and click the **OK** button.

Figure 7-8

Delete - Click the **Delete** button to delete a profile.

Click the **X** (Close) button in the upper right corner to exit the WLAN Monitor.

Note: If you have more than one profile, all profiles will be automatically selected and exported to the same folder.

Creating a New Profile

1. On the *Profiles* screen, shown in Figure 7-6, click the **New** button to create a new profile.

2. When the *Create connection profile* screen appears (Figure 7-9), enter a name for the new profile. Click **OK** to save the profile name or click **Cancel** to return to the previous screen.

Figure 7-9

3. The *Choose a network type* screen (Figure 7-10) shows a choice of two wireless modes. Click the **Infrastructure Mode** radio button if you want your wireless computers to communicate with computers on your wired network via a wireless access point. Click the **Ad-Hoc Mode** radio button if you want multiple wireless computers to communicate directly with each other. Click the **Next** button to continue or the **Back** button to return to the previous screen.

   Infrastructure Mode - This mode allows wireless and wired networks to communicate through an access point.

   Ad-Hoc Mode - This mode allows wireless-equipped computers to communicate directly with each other. No access point is used.

Figure 7-10

4. The *Wireless Settings* screen (Figure 7-11) will appear. If you chose Infrastructure Mode, go to ***Step 5*** now. If you chose Ad-Hoc Mode, select the correct operating channel for your network from the *Channel* drop-down menu. Then, select the *Network Mode* from the drop-down menu. Click the **Next** button, and go to ***Step 5***. Click the **Back** button to change any settings.

   Channel - The channel you choose should match the channel set on the other devices in your wireless network. If you are unsure about which channel to use, select the default channel (Channel 6).

   Network Mode - Select **Mixed Mode**, and both Wireless-G and Wireless-B computers will be allowed on the network, but the speed will be reduced. Select **G-Only Mode** for maximum speed, but no Wireless-B users will be allowed on the network.

Figure 7-11

5. The *Network Setting* screen (Figure 7-12) will appear.

   If your network has a DHCP server, click the radio button next to **Obtain an IP address automatically (DHCP)**. Click the **Next** button to continue, or click the **Back** button to return to the previous screen.

   If your network does not have a DHCP server, click the radio button next to **Specify the IP address**. Enter an **IP Address**, **Subnet Mask**, **Default Gateway**, and **DNS** appropriate for your network. Enter each address in this format: **xxx.xxx.xxx.xxx** (the x's represent the numbers that make up each address). You must specify the IP Address and Subnet Mask on this screen. If you are unsure about the Default Gateway and DNS addresses, then leave these fields alone.

   IP Address - This IP Address must be unique to your network.

   Subnet Mask - The Adapter's Subnet Mask must be the same as your wired network's Subnet Mask.

   Default Gateway - Enter the IP address of your network's Gateway here.

   DNS - Enter the DNS addresses of your Ethernet (wired) network here.

   Click the **Next** button to continue or the **Back** button to return to the previous screen.

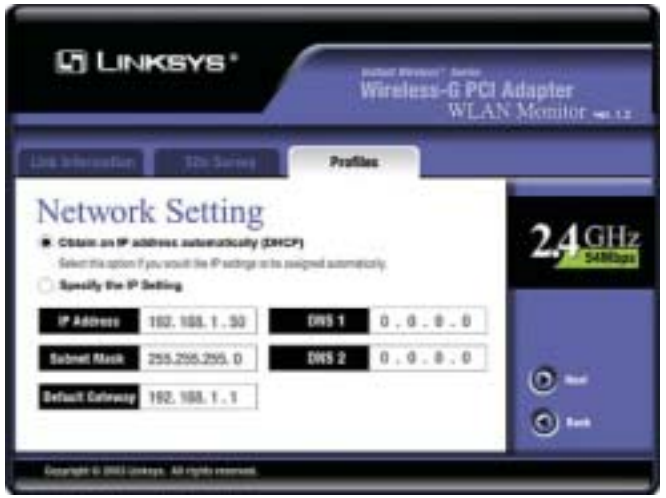

Figure 7-12

6. The *Security Settings* screen (Figure 7-13) will appear. Enable or disable Wired Equivalent Privacy (WEP) encryption for your wireless network. If you enable WEP, enter a Passphrase or WEP key. Click the **Next** button to continue or the **Back** button to return to the previous screen.

WEP (Disabled/64 bits WEP/128 bits WEP) - If you do not want to use WEP encryption, choose **Disabled**. To use WEP encryption (recommended to increase network security), select **64 bits** or **128 bits WEP** from the drop-down menu, and enter either a Passphrase or WEP key.

Passphrase - Instead of manually entering WEP keys, you can enter a Passphrase, so that a WEP key is automatically generated. It is case-sensitive and should not be longer than 16 alphanumeric characters. This passphrase must match the passphrase of your wireless network and is compatible with other Linksys wireless products only. (If you have any non-Linksys wireless products, enter the WEP key(s) manually on those products.)

Key 1 - This WEP key must match the WEP key of your wireless network. If you are using 64-bit WEP encryption, then the key must consist of exactly 10 hexadecimal characters. If you are using 128-bit WEP encryption, then the key must consist of exactly 26 hexadecimal characters. Valid hexadecimal characters are "0" to "9" and "A" to "F".

Figure 7-13

7. The *Confirm New Settings* screen (Figure 7-14) will appear. To save the new settings, click the **Yes** button. To cancel the settings and return to the *Profiles* screen, click the **No** button. To edit the new settings, click the **Back** button.

Figure 7-14

8. The *Congratulations* screen (Figure 7-15) will appear next. Click **Activate new settings now** to implement the new settings immediately and return to the *Link Information* screen. Click **Activate new settings later** to keep the current settings active, and return to the *Profiles* screen so that you can edit your profile or create another profile.

Figure 7-15

You have successfully created a connection profile. Click the X (Close) button in the upper right corner to exit the WLAN Monitor.

Appendix A: Troubleshooting

Common Problems and Solutions

This chapter provides solutions to problems that may occur during the installation and operation of the Wireless-G PCI Adapter. Read the descriptions below to solve your problems. If you can't find an answer here, check the Linksys website at *www.linksys.com*.

1. **The Wireless-G PCI Adapter does not work properly.**
   - Reinsert the Wireless-G PCI Adapter into your PC's PCI slot.
   - Right click on **My Computer** and select **Properties**. Select the device manager and click on the Network Adapter. You will find the Wireless-G PCI Adapter if it is installed successfully. If you see the yellow exclamation mark, the resources are conflicting. You will see the status of the Wireless-G PCI Adapter. If there is a yellow question mark, please check the following:
   - Make sure that your PC has a free IRQ (Interrupt ReQuest, a hardware interrupt on a PC.)
   - Make sure that you have inserted the right adapter and installed the proper driver.

   If the Wireless-G PCI Adapter does not function after attempting the above steps, remove the adapter and do the following:
   - Uninstall the driver software from your PC.
   - Restart your PC and repeat the hardware and software installation as specified in this User Guide.

2. **I cannot communicate with the other computers linked via Ethernet in the Infrastructure configuration.**
   - Make sure that the PC to which the Wireless-G PCI Adapter is associated is powered on.
   - Make sure that your Wireless-G PCI Adapter is configured on the same channel and with the same security options as with the other computers in the Infrastructure configuration.

Frequently Asked Questions

Can I run an application from a remote computer over the wireless network?
This will depend on whether or not the application is designed to be used over a network. Consult the application's user guide to determine if it supports operation over a network.

Can I play computer games with other members of the wireless network?
Yes, as long as the game supports multiple players over a LAN (local area network). Refer to the game's user guide for more information.

What is the IEEE 802.11b standard?
It is one of the IEEE standards for wireless networks. The 802.11b standard allows wireless networking hardware from different manufacturers to communicate, provided that the hardware complies with the 802.11b standard. The 802.11b standard states a maximum data transfer rate of 11Mbps and an operating frequency of 2.4GHz.

What IEEE 802.11b features are supported?
The product supports the following IEEE 802.11b functions:
- CSMA/CA plus Acknowledge protocol
- Multi-Channel Roaming
- Automatic Rate Selection
- RTS/CTS feature
- Fragmentation
- Power Management

What is ad-hoc mode?
When a wireless network is set to ad-hoc mode, the wireless-equipped computers are configured to communicate directly with each other. The ad-hoc wireless network will not communicate with any wired network.

What is infrastructure mode?
When a wireless network is set to infrastructure mode, the wireless network is configured to communicate with a wired network through a wireless access point.

What is roaming?
Roaming is the ability of a portable computer user to communicate continuously while moving freely throughout an area greater than that covered by a single access point. Before using the roaming function, the workstation must make sure that it is the same channel number with the access point of dedicated coverage area.

To achieve true seamless connectivity, the wireless LAN must incorporate a number of different functions. Each node and access point, for example, must always acknowledge receipt of each message. Each node must maintain contact with the wireless network even when not actually transmitting data. Achieving these functions simultaneously requires a dynamic RF networking technology that links access points and nodes. In such a system, the user's end node undertakes a search for the best possible access to the system. First, it evaluates such factors as signal strength and quality, as well as the message load currently being carried by each access point and the distance of each access point to the wired backbone. Based on that information, the node next selects the right access point and registers its address. Communications between end node and host computer can then be transmitted up and down the backbone.

As the user moves on, the end node's RF transmitter regularly checks the system to determine whether it is in touch with the original access point or whether it should seek a new one. When a node no longer receives acknowledgment from its original access point, it undertakes a new search. Upon finding a new access point, it then re-registers, and the communication process continues.

What is ISM band?

The FCC and their counterparts outside of the U.S. have set aside bandwidth for unlicensed use in the ISM (Industrial, Scientific and Medical) band. Spectrum in the vicinity of 2.4 GHz, in particular, is being made available worldwide. This presents a truly revolutionary opportunity to place convenient high-speed wireless capabilities in the hands of users around the globe.

What is Spread Spectrum?

Spread Spectrum technology is a wideband radio frequency technique developed by the military for use in reliable, secure, mission-critical communications systems. It is designed to trade off bandwidth efficiency for reliability, integrity, and security. In other words, more bandwidth is consumed than in the case of narrowband transmission, but the trade-off produces a signal that is, in effect, louder and thus easier to detect, provided that the receiver knows the parameters of the spread-spectrum signal being broadcast. If a receiver is not tuned to the right frequency, a spread-spectrum signal looks like background noise. There are two main alternatives, Direct Sequence Spread Spectrum (DSSS) and Frequency Hopping Spread Spectrum (FHSS).

What is DSSS? What is FHSS? And what are their differences?

Frequency-Hopping Spread-Spectrum (FHSS) uses a narrowband carrier that changes frequency in a pattern that is known to both transmitter and receiver. Properly synchronized, the net effect is to maintain a single logical channel. To

an unintended receiver, FHSS appears to be short-duration impulse noise. Direct-Sequence Spread-Spectrum (DSSS) generates a redundant bit pattern for each bit to be transmitted. This bit pattern is called a chip (or chipping code). The longer the chip, the greater the probability that the original data can be recovered. Even if one or more bits in the chip are damaged during transmission, statistical techniques embedded in the radio can recover the original data without the need for retransmission. To an unintended receiver, DSSS appears as low power wideband noise and is rejected (ignored) by most narrowband receivers.

Would the information be intercepted while transmitting on air?

WLAN features two-fold protection in security. On the hardware side, as with Direct Sequence Spread Spectrum technology, it has the inherent security feature of scrambling. On the software side, WLAN offers the encryption function (WEP) to enhance security and access control.

What is WEP?

WEP is Wired Equivalent Privacy, a data privacy mechanism based on a 64-bit or 128-bit shared key algorithm, as described in the IEEE 802.11 standard.

Appendix B: Glossary

802.11b - One of the IEEE standards for wireless networking hardware. Products that adhere to a specific IEEE standard will work with each other, even if they are manufactured by different companies. The 802.11b standard specifies a maximum data transfer rate of 11Mbps, an operating frequency of 2.4GHz, and WEP encryption for security. 802.11b networks are also referred to as Wi-Fi networks.

802.11g - A proposed, but as yet unratified extension of the IEEE 802.11 standard for wireless networking hardware. The draft 802.11g specifications used by Linksys specify a maximum data transfer rate of 54Mbps using OFDM modulation, an operating frequency of 2.4GHz, backward compatibility with IEEE 802.11b devices, and WEP encryption for security.

Adapter - Printed circuit board that plugs into a PC to add to capabilities or connectivity to a PC. In a networked environment, a network interface card is the typical adapter that allows the PC or server to connect to the intranet and/or Internet.

Ad-hoc Network - An ad-hoc network is a group of computers, each with a wireless adapter, connected as an independent 802.11 wireless LAN. Ad-hoc wireless computers operate on a peer-to-peer basis, communicating directly with each other without the use of an access point. Ad-hoc mode is also referred to as an Independent Basic Service Set (IBSS) or as peer-to-peer mode, and is useful at a departmental scale or SOHO operation.

Backbone - The part of a network that connects most of the systems and networks together and handles the most data.

Bandwidth - The transmission capacity of a given facility, in terms of how much data the facility can transmit in a fixed amount of time; expressed in bits per second (bps).

Bit - A binary digit. The value - 0 or 1-used in the binary numbering system. Also, the smallest form of data.

BSS (**B**asic **S**ervice **S**et) - An infrastructure network connecting wireless devices to a wired network using a single access point.

CSMA/CA (**C**arrier **S**ense **M**ultiple **A**ccess/**C**ollision **A**voidance) - In local area networking, this is the CSMA technique that combines slotted time-division multiplexing with carrier sense multiple access/collision detection (CSMA/CD) to avoid having collisions occur a second time. This works best if the time allocated is short compared to packet length and if the number of situations is small.

CTS (**C**lear **T**o **S**end) - An RS-232 signal sent from the receiving station to the transmitting station that indicates it is ready to accept data.

Default Gateway - The routing device used to forward all traffic that is not addressed to a station within the local subnet.

DHCP (**D**ynamic **H**ost **C**onfiguration **P**rotocol) - A protocol that lets network administrators manage centrally and automate the assignment of Internet Protocol (IP) addresses in an organization's network. Using the Internet's set of protocol (TCP/IP), each machine that can connect to the Internet needs a unique IP address. When an organization sets up its computer users with a connection to the Internet, an IP address must be assigned to each machine. Without DHCP, the IP address must be entered manually at each computer and, if computers move to another location in another part of the network, a new IP address must be entered. DHCP lets a network administrator supervise and distribute IP addresses from a central point and automatically sends a new IP address when a computer is plugged into a different place in the network.

DHCP uses the concept of a "lease" or amount of time that a given IP address will be valid for a computer. The lease time can vary depending on how long a user is likely to require the Internet connection at a particular location. It's especially useful in education and other environments where users change frequently. Using very short leases, DHCP can dynamically reconfigure networks in which there are more computers than there are available IP addresses.

DHCP supports static addresses for computers containing Web servers that need a permanent IP address.

DNS - The domain name system (DNS) is the way that Internet domain name are located and translated into Internet Protocol (IP) addresses. A domain name is a meaningful and easy-to-remember "handle" for an Internet address.

Domain - A subnetwork comprised of a group of clients and servers under the control of one security database. Dividing LANs into domains improves performance and security.

Driver - A workstation or server software module that provides an interface between a network interface card and the upper-layer protocol software running in the computer; it is designed for a specific card, and is installed during the initial installation of a network-compatible client or server operating system.

DSSS (**D**irect-**S**equence **S**pread **S**pectrum) - DSSS generates a redundant bit pattern for all data transmitted. This bit pattern is called a chip (or chipping code). Even if one or more bits in the chip are damaged during transmission, statistical techniques embedded in the receiver can recover the original data without the need for retransmission. To an unintended receiver, DSSS appears as low power wideband noise and is rejected (ignored) by most narrowband receivers. However, to an intended receiver (i.e. another wireless LAN end-point), the DSSS signal is recognized as the only valid signal, and interference is inherently rejected (ignored).

Encryption - A security method that applies a specific algorithm to data in order to alter the data's appearance and prevent other devices from reading the information.

Ethernet - IEEE standard network protocol that specifies how data is placed on and retrieved from a common transmission medium. Has a transfer rate of 10 Mbps. Forms the underlying transport vehicle used by several upper-level protocols, including TCP/IP and XNS.

FHSS (**F**requency **H**opping **S**pread **S**pectrum) - FHSS continuously changes (hops) the carrier frequency of a conventional carrier several times per second according to a pseudo-random set of channels. Because a fixed frequency is not used, and only the transmitter and receiver know the hop patterns, interception of FHSS is extremely difficult.

Fragmentation - Breaking a packet into smaller units when transmitting over a network medium that cannot support the original size of the packet.

Gateway - A device that interconnects networks with different, incompatible communications protocols.

Hardware - Hardware is the physical aspect of computers, telecommunications, and other information technology devices. The term arose as a way to distinguish the "box" and the electronic circuitry and components of a computer from the program you put in it to make it do things. The program came to be known as the software.

Hop - The link between two network nodes.

IEEE (The **I**nstitute of **E**lectrical and **E**lectronics **E**ngineers) - The IEEE describes itself as "the world's largest technical professional society, promoting the development and application of electrotechnology and allied sciences for the benefit of humanity, the advancement of the profession, and the well-being of our members."

The IEEE fosters the development of standards that often become national and international standards. The organization publishes a number of journals, has many local chapters, and several large societies in special areas, such as the IEEE Computer Society.

Infrastructure Network - An infrastructure network is a group of computers or other devices, each with a wireless adapter, connected as an 802.11 wireless LAN. In infrastructure mode, the wireless devices communicate with each other and to a wired network by first going through an access point. An infrastructure wireless network connected to a wired network is referred to as a Basic Service Set (BSS). A set of two or more BSS in a single network is referred to as an Extended Service Set (ESS). Infrastructure mode is useful at a corporation scale, or when it is necessary to connect the wired and wireless networks.

IP (**I**nternet **P**rotocol) - The method or protocol by which data is sent from one computer to another on the Internet. It is a standard set of rules, procedures, or conventions relating to the format and timing of data transmission between two computers that they must accept and use to be able to understand each other.

IP Address - In the most widely installed level of the Internet Protocol (IP) today, an IP address is a 32-binary digit number that identifies each sender or receiver of information that is sent in packet across the Internet. When you request an HTML page or send e-mail, the Internet Protocol part of TCP/IP includes your IP address in the message (actually, in each of the packets if more than one is required) and sends it to the IP address that is obtained by looking up the domain name in the Uniform Resource Locator you requested or in the e-mail address you're sending a note to. At the other end, the recipient can see the IP address of the Web page requestor or the e-mail sender and can respond by sending another message using the IP address it received.

IRQ (**I**nterrupt **R**e**Q**uest) - A hardware interrupt on a PC. There are 16 IRQ lines used to signal the CPU that a peripheral event has started or terminated. Except for PCI devices, two devices cannot use the same line.

ISM band - The FCC and their counterparts outside of the U.S. have set aside bandwidth for unlicensed use in the ISM (Industrial, Scientific and Medical) band. Spectrum in the vicinity of 2.4 GHz, in particular, is being made available worldwide. This presents a truly revolutionary opportunity to place convenient high-speed wireless capabilities in the hands of users around the globe.

LAN (**L**ocal **A**rea **N**etwork) - A group of computers and associated devices that share a common communications line and typically share the resources of a single processor or server within a small geographic area (for example, within an office building).

MAC (**M**edia **A**ccess **C**ontrol) **Address** - A unique number assigned by the manufacturer to any Ethernet networking device, such as a network adapter, that allows the network to identify it at the hardware level.

Mbps (**M**ega**b**its **p**er **s**econd) - One million bits per second; unit of measurement for data transmission.

Motherboard - A motherboard is the physical arrangement in a computer that contains the computer's basic circuitry and components.

Network - A system that transmits any combination of voice, video and/or data between users.

Node - A network junction or connection point, typically a computer or work station.

OFDM - Developed for wireless applications, Orthogonal Frequency Division Multiplexing (OFDM) technology offers superior performance-increased data rates and more reliable transmissions-than previous technologies, such as DSSS. OFDM is a scheme in which numerous signals of different frequencies are combined to form a single signal for transmission on the medium.

OFDM works by breaking one high-speed data stream into a number of lower-speed data streams, which are then transmitted in parallel. Each lower speed stream is used to modulate a subcarrier. Essentially, this creates a multi-carrier transmission by dividing a wide frequency band or channel into a number of narrower frequency bands or sub-channels. OFDM is also used for other applications, including powerline networking.

Packet - A unit of data routed between an origin and a destination in a network.

Passphrase - Used much like a password, a passphrase simplifies the WEP encryption process by automatically generating the WEP encryption keys for Linksys products.

PCI (**P**eripheral **C**omponent **I**nterconnect) - A peripheral bus commonly used in PCs, Macintoshes and workstations. It was designed primarily by Intel and first appeared on PCs in late 1993. PCI provides a high-speed data path between the CPU and peripheral devices (video, disk, network, etc.). There are typically three or four PCI slots on the motherboard. In a Pentium PC, there is generally a mix of PCI and ISA slots or PCI and EISA slots. Early on, the PCI bus was known as a "local bus."

PCI provides "plug and play" capability, automatically configuring the PCI cards at startup. When PCI is used with the ISA bus, the only thing that is generally required is to indicate in the CMOS memory which IRQs are already in use by ISA cards. PCI takes care of the rest.

PCI allows IRQs to be shared, which helps to solve the problem of limited IRQs available on a PC. For example, if there were only one IRQ left over after ISA devices were given their required IRQs, all PCI devices could share it. In a PCI-only machine, there cannot be insufficient IRQs, as all can be shared.

Plug-and-Play - The ability of a computer system to configure expansion boards and other devices automatically without requiring the user to turn off the system during installation.

Port - A pathway into and out of the computer or a network device such as a switch or router. For example, the serial and parallel ports on a personal computer are external sockets for plugging in communications lines, modems and printers.

Roaming - In an infrastructure mode wireless network, this refers to the ability to move out of one access point's range and into another and transparently reassociate and reauthenticate to the new access point. This reassociation and reauthentication should occur without user intervention and ideally without interruption to network connectivity. A typical scenario would be a location with multiple access points, where users can physically relocate from one area to another and easily maintain connectivity.

RTS (**R**equest **T**o **S**end) - An RS-232 signal sent from the transmitting station to the receiving station requesting permission to transmit.

Server - Any computer whose function in a network is to provide user access to files, printing, communications, and other services.

Software - Instructions for the computer. A series of instructions that performs a particular task is called a "program." The two major categories of software are "system software" and "application software." System software is made up of control programs such as the operating system and database management system (DBMS). Application software is any program that processes data for the user.

A common misconception is that software is data. It is not. Software tells the hardware how to process the data.

SOHO (**S**mall **O**ffice/**H**ome **O**ffice) - Market segment of professionals who work at home or in small offices.

Spread Spectrum - Spread Spectrum technology is a wideband radio frequency technique developed by the military for use in reliable, secure, mission-critical communications systems. It is designed to trade off bandwidth efficiency for reliability, integrity, and security. In other words, more bandwidth is consumed than in the case of narrowband transmission, but the trade off produces a signal that is, in effect, louder and thus easier to detect, provided that the receiver knows the parameters of the spread-spectrum signal being broadcast. If a receiver is not tuned to the right frequency, a spread-spectrum signal looks like background noise. There are two main alternatives, Direct Sequence Spread Spectrum (DSSS) and Frequency Hopping Spread Spectrum (FHSS).

SSID (**S**ervice **S**et **ID**entifier) - A unique name shared among all points in a wireless network. The SSID must be identical for each point in the wireless network and is case-sensitive.

Storage - The semi-permanent or permanent holding place for digital data.

Subnet Mask - The method used for splitting IP networks into a series of subgroups, or subnets. The mask is a binary pattern that is matched up with the IP address to turn part of the host ID address field into a field for subnets.

Switch - 1. A data switch connects computing devices to host computers, allowing a large number of devices to share a limited number of ports. 2. A device for making, breaking, or changing the connections in an electrical circuit.

TCP (**T**ransmission **C**ontrol **P**rotocol) - A method (protocol) used along with the IP (Internet Protocol) to send data in the form of message units (datagram) between network devices over a LAN or WAN. While IP takes care of handling the actual delivery of the data (routing), TCP takes care of keeping track of the individual units of data (called packets) that a message is divided into for efficient delivery over the network. TCP is known as a "connection oriented" protocol due to requiring the receiver of a packet to return an acknowledgment of receipt to the sender of the packet resulting in transmission control.

TCP/IP (**T**ransmission **C**ontrol **P**rotocol/**I**nternet **P**rotocol) - The basic communication language or set of protocols for communications over a network (developed specifically for the Internet). TCP/IP defines a suite or group of protocols and not only TCP and IP.

Throughput - The amount of data moved successfully from one place to another in a given time period.

Topology - A network's topology is a logical characterization of how the devices on the network are connected and the distances between them. The most common network devices include hubs, switches, routers, and gateways. Most large networks contain several levels of interconnection, the most important of which include edge connections, backbone connections, and wide-area connections.

WAN (**W**ide **A**rea **N**etwork)- A communications network that covers a relatively large geographic area, consisting of two or more LANs. Broadband communication over the WAN is often through public networks such as the telephone (DSL) or cable systems, or through leased lines or satellites. In its most basic definition, the Internet could be considered a WAN.

WEP (**W**ired **E**quivalent **P**rivacy) - A data privacy mechanism based on a 64-bit or 128-bit shared key algorithm, as described in the IEEE 802.11 standard.

WLAN (**W**ireless **L**ocal **A**rea **N**etwork) - A group of computers and associated devices that communicate with each other wirelessly.

Appendix C: Specifications

Standards:	Draft 802.11g, 802.11b
Modulation:	802.11b: CCK (11 Mbps), DQPSK (2 Mbps), DBPSK (1 Mbps); 802.11g: OFDM
Channels:	
802.11b, draft 802.11g	11 Channels (USA) 13 Channels (Europe) 14 Channels (Japan)
Network Protocol:	TCP/IP, IPX, NDIS 4, NDIS 5, NDIS 5.1, NetBEUI
Interface:	PCI
Transmit Power:	15 dBm
Sensitivity:	-80 dBm
LED:	ACT
WEP Key Bits:	64-Bit and 128-Bit

Environmental

Dimensions:	4.8" x 8.66" x 0.91" (122 mm x 220 mm x 23 mm)
Unit Weight:	4.5 oz. (0.13 kg)
Power:	3.3V
Certifications:	FCC
Operating Temp.:	32ºF to 150ºF (0ºC to 65ºC)
Storage Temp.:	-40ºF to 185ºF (-40ºC to 85ºC)
Operating Humidity:	0% to 95%, Non-Condensing
Storage Humidity:	0% to 95%, Non-Condensing

Appendix D: Warranty Information

BE SURE TO HAVE YOUR PROOF OF PURCHASE AND A BARCODE FROM THE PRODUCT'S PACKAGING ON HAND WHEN CALLING. RETURN REQUESTS CANNOT BE PROCESSED WITHOUT PROOF OF PURCHASE.

IN NO EVENT SHALL LINKSYS' LIABILITY EXCEED THE PRICE PAID FOR THE PRODUCT FROM DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT, ITS ACCOMPANYING SOFTWARE, OR ITS DOCUMENTATION. LINKSYS DOES NOT OFFER REFUNDS FOR ANY PRODUCT.

LINKSYS OFFERS CROSS SHIPMENTS, A FASTER PROCESS FOR PROCESSING AND RECEIVING YOUR REPLACEMENT. LINKSYS PAYS FOR UPS GROUND ONLY. ALL CUSTOMERS LOCATED OUTSIDE OF THE UNITED STATES OF AMERICA AND CANADA SHALL BE HELD RESPONSIBLE FOR SHIPPING AND HANDLING CHARGES. PLEASE CALL LINKSYS FOR MORE DETAILS.

Appendix E: Contact Information

For help with the installation or operation of the Wireless-G PCI Adapter, contact Linksys Technical Support at one of the phone numbers or Internet addresses below.

Sales Information	800-546-5797 (LINKSYS)
Technical Support	800-326-7114
RMA (Return Merchandise Authorization) Issues	www.linksys.com (or call 949-271-5461)
Fax	949-265-6655
E-mail	support@linksys.com
Web	http://www.linksys.com
FTP Site	ftp.linksys.com

http://www.linksys.com

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